What is claimed is:

1. A method of determining a distribution of ramping times for electromagnetic coils in a system for magnetically-assisted surgery comprising the steps of:

calculating, for a selected magnetic field magnitude and direction, currents needed in each coil to provide the selected magnetic field magnitude and direction at a point in an operating region;

estimating, for each of the calculated currents, a ramping time required to reach the calculated current; and

repeating the current calculating step and the ramping time estimating step for a plurality of different points in the operating region, and for selected magnetic field magnitudes and directions to obtain a distribution of ramping times as a function of selected magnetic field magnitude and direction for the system for magnetically-assisted surgery.

2. A method of optimizing the design of a magnetic guidance system for navigating a magnetic medical device through a patient, the magnetic guidance system comprising a plurality of electromagnetic coils configured to provide an effective magnetic field in an operating region of a patient,

the method comprising:

selecting a maximum ramping time not to be exceeded by a selected percentage of navigational direction changes of the magnetic medical device;

determining a distribution of ramping times in accordance with the method of claim 1;

determining a percentage of ramping times in the distribution of ramping times that the selected maximum ramping time is exceeded; and

modifying at least one property of at least one of the electromagnetic coils, the at least one property including at least one property selected from the group consisting of coil radius, coil cross-sectional area, coil distance from the operating region, and coil aspect ratio; and repeating the computing, determining, and modifying steps until the

percentage of ramping times in the distribution of ramping times that the selected minimum ramping time is exceeded is not more than the selected percentage of navigational direction changes.

3. A system for navigating a magnetic medical device within that part of a patient located within a operating region of the system, the system comprising:

at least three magnets configured and arranged in substantially in a plane to provide a magnetic field effective within the operating region to navigate the magnetic medical device within the operating region.

4. The system according to claim 3 wherein the magnets are capable of generating a magnet filed within the operating of at least 0.1 in any direction

5. The system according to claim 3 wherein the magnets are electromagnetic coils, and wherein the axis of at least one of the coils is not perpendicular to the plane.

6. The system according to claim 5 wherein the magnets are electromagnetic coils, and wherein the axes of the coils coverage.

7. The system according to claim 3 further comprising an imaging system comprising an amorphous silicon imaging plate and an X-ray generating tube having a beam directed at the imaging plate, wherein at least the amorphous silicon imaging plate is within an effective magnetic field of the at least three magnetic coils.

8. The system according to claim 3 further comprising a bi-planar imaging system comprising:

a C-arm, having a generally C-shaped support adapted to rotate about its central axis, and a mount for mounting the C-shaped support to pivot about two generally perpendicular axes that are perpendicular to the central axis of the C-shaped support;

first and second imaging devices mounted on the C-shaped support, each imaging device comprising an imaging beam source mounted on the C-arm and first and second image receptors mounted on arms extending generally parallel with the imaging beams, the arms extending from the C-shaped support generally adjacent the imaging beam source.

9. The system according to claim 8 wherein the imaging be sources include x-ray generating tubs, and wherein the first and second image receptors are amorphous silicon imaging plates.

10. A system for applying a magnetic field to a patient's body sufficient to magnetically navigate a magnetically responsive element in the patient's body, the system comprising:

four electromagnets arranged substantially in a plane.

11. The system according to claim 10 wherein the plane is generally vertical.

12. The system according to claim 11 wherein the four magnets are arranged in two rows of two.

13. The system according to claim 3 wherein the magnets are arranged in a square pattern, with a magnet generally entered at each corner of the square.

14. The system according to claim 10 wherein the four magnets are arranged in two rows of two.

15. The system according to claim 14 wherein the magnets are arranged in a square pattern with a magnet generally centered at each corner of the square.

16. A system for applying a magnetic field to a patient's body sufficient to magnetically navigate a magnetically responsive element in the patient's body, the system comprising:

a patient support for supporting a patient;

a magnet assembly comprising a generally planar support adjacent the patient support, and four electromagnets mounted on the planar support and arranged substantially in a plane.

17. The system according to claim 16 wherein the patient support comprises a bed having a head and a foot, and wherein the magnet assembly is positioned at the head of the bed.

18. The system according to claim 17 wherein the four electromagnets are arranged substantially in a vertical plane.

19. The system according to claim 18 wherein the four electromagnets are arranged in two rows of two magnets.